

LAND WARRIOR CAPABILITIES

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Introduction

Land Warrior is the U.S. Army's premier program for integrating infantry soldier combat capabilities into a warfighting system optimized for close combat. In addition, Land Warrior is a key component in the overarching vision of modernizing infantry soldiers as weapon platforms. It not only provides enhanced capabilities at the infantry-soldier level, but also increases the combat effectiveness of infantry teams, squads, crews, and platoons to achieve overmatch in the close fight.

Land Warrior will participate in the Joint Contingency Force Advanced Warfighting Experiment (JCF AWE) in September 2000 at the Joint Readiness Training Center (JRTC), Fort Polk, LA. Land Warrior's participation enables the Army to obtain soldier feedback, collect technical performance data, and begin to demonstrate the increases in combat effectiveness at the platoon level and below that Land Warrior provides. Because Land Warrior provides capabilities that current infantry soldiers do not possess, the results of the JCF AWE (the largest exercise of Land Warriors operating together to date) will be valuable in refining the system capabilities and defining new tactics, techniques, and procedures (TTPs).

JCF AWE Missions

The JCF AWE version of the Land Warrior is commonly referred to as Version 0.6

(Figure 1). Fifty-five systems will be fielded to the 2nd platoon and other elements of C Company, 3rd Battalion of the 325th Airborne Infantry Regiment for use during the JCF AWE. In addition to supplying the rifle platoon and its assigned medic and forward observer, systems will also be provided to a portion of the company headquarters, a mortar section, and to fire support and sapper personnel.



Figure 1.
Land Warrior for JCF AWE

Land Warrior-equipped elements of the 3rd Battalion will be limited to approximately 7 days of combat operations and three major missions. In the first mission, the 325th will perform a night airborne assault and seizure of a flight landing strip held by an opposing force. Once the initial airhead is secure, the 325th will conduct search-and-attack operations to expand the lodgment surrounding the landing strip.

Once the 325th hands the battle over to the 1st Brigade of the 10th Mountain Division, the 2nd platoon, equipped with the Land Warrior, will begin planning and preparing for its second mission: a platoon assault into the Shughart/Gordon urban training facility. At Shughart-Gordon, the 2nd platoon of Company C will conduct a live-fire seizure of an urban target at night. Following the attack into the Shughart/Gordon complex, the 2nd platoon will plan, prepare for, and execute its third mission: a night live-fire ambush. These three missions will provide a broad spectrum of operations in a short period during the JCF AWE.

Preparation

Training for the Land Warrior platoon began at Fort Bragg, NC, in June. Performance-oriented training on the Land Warrior equipment, use, functions, and TTPs is being conducted into July. After the performance-oriented training, the infantry platoon will conduct unit-training exercises to become proficient with system capabilities and

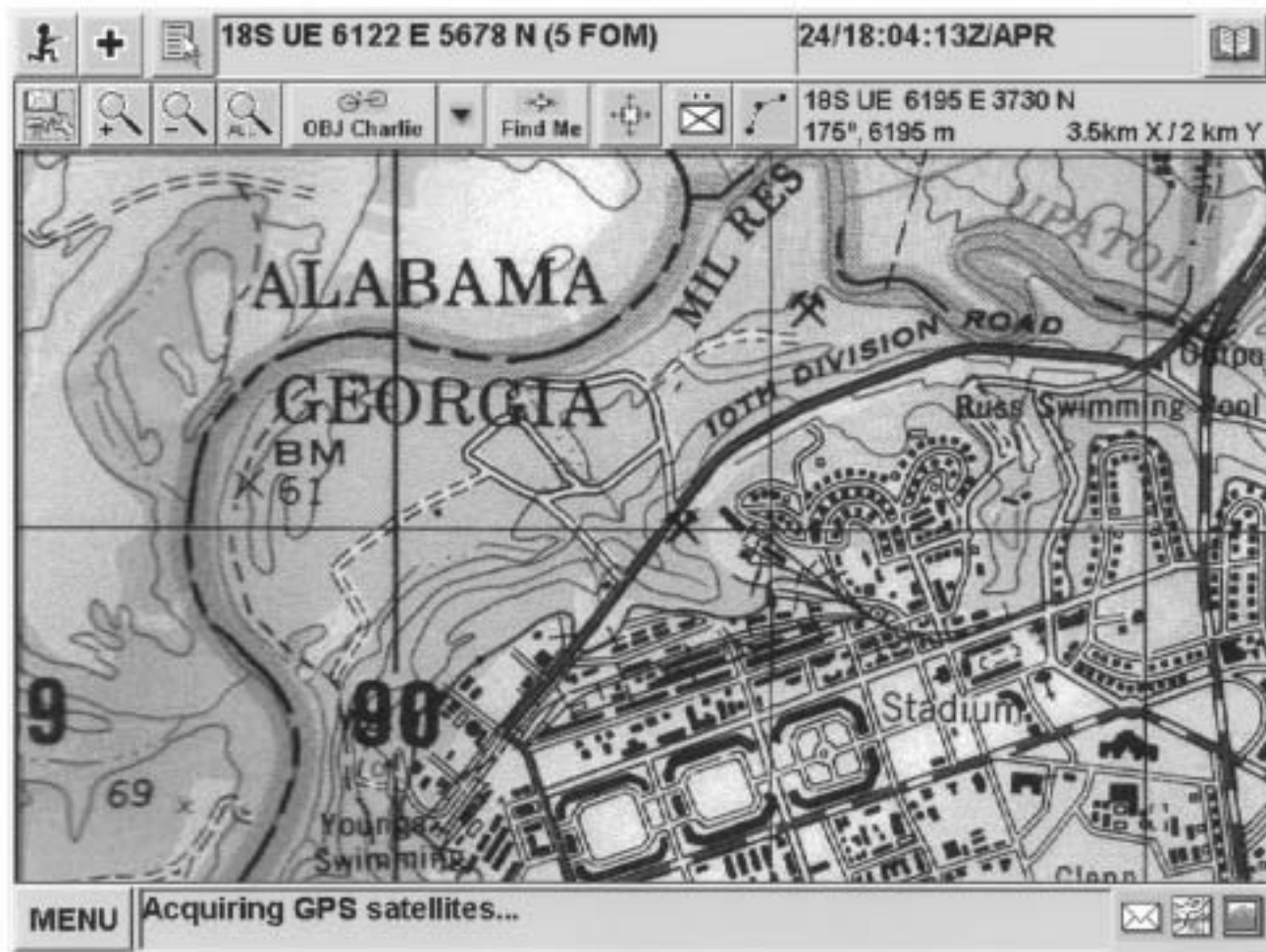


Figure 2.
Land Warrior navigation screen

employment prior to deployment to the JCF AWE in September. Training will also include a 2-week deployment to Fort Benning, GA, to conduct training at the McKenna urban training facility and other facilities in preparation for the JCF AWE.

Land Warrior is currently in engineering and manufacturing development with a production decision scheduled for FY03. While the Land Warrior prototype systems in the JCF AWE will not be fully compliant with the Land Warrior Operational Requirements Document (ORD), key performance parameters, and threshold requirements, the systems will provide the platoon many capabilities they do not currently possess.

Land Warrior Version 0.6

The following is a brief summary of capabilities to be included in Land

Warrior Version 0.6 to be employed during the JCF AWE. Selected infantrymen, sappers, medics, and forward observers will be equipped with a suite of electronic equipment integrated onto the modular lightweight load-carrying equipment, assault helmet system, and weapon system. Integration of the equipment on the soldier is a fundamental challenge because the human platform is quite variable, dynamic, and mobile. Land Warrior uses a systems approach to provide a suite of equipment that is adaptable for the mission to be performed. The JCF AWE will provide soldier feedback to further improve the physical integration of the equipment on the soldier for the production version.

Land Warrior will also have data communications provided by integrated electronics and a military global position-

ing system. Infantrymen can accurately identify their location and the location of their fellow members by glancing at an electronic color map (Figure 2). The maps can be annotated and transmitted within the squad and platoon to clearly communicate mission changes to each squad member. The system also provides a dead-reckoning capability for position location when soldiers are in restricted terrain where global positioning satellite communications are obscured, such as in an urban area.

The soldier will have the ability to engage targets around corners and from under cover by using weapon-mounted sights with the image shown on the helmet-mounted display. The daylight video sight provides daylight visual targeting capability, while the thermal weapon sight provides target acquisition

in day, night, and smoky battlefield conditions. Images from each of the sights can be captured, annotated, and transmitted within the platoon. Transmission of images can be used to clearly identify the objective, identify lanes of fire, and send intelligence data back to headquarters.

Some capabilities will not be incorporated or will be partially incorporated into Land Warrior for the JCF AWE, but will be fully incorporated into the system prior to production. For example, full Tactical Internet connectivity with a full complement of Dismounted Joint Variable Message Format (JVMF) messages passed to Force XXI Battle Command Brigade and Below (FBCB2) is required for the production system but will not be available for the JCF AWE. However, this capability will be demonstrated by digitally sending messages to and from the rifleman up through the squad leader and platoon leader to the Tactical Internet. Seven key JVMF messages (4 of which are two-way messages for a total of 11 messages) have been selected to demonstrate the connectivity between Land Warrior and FBCB2. These messages include position, situation, and medical evacuation reports.

Other capabilities of the JCF AWE Land Warrior that will not yet meet full ORD compliance include interoperability with combat identification, full operational temperature range, erasure of computer data if captured, threat laser detection, and interoperability with the Joint Chemical Agent Detector. These capabilities are being worked for the next version of Land Warrior, Version 1.0, which will undergo the formal testing and become the baseline for Milestone III.

The Land Warrior for the JCF AWE is powered by a 2.4-pound state-of-the-art, lithium-pouch-cell primary battery that provides reliable power for 12 mission hours. During the training at Fort Bragg, a lithium rechargeable battery was used to power Land Warrior. This same technology will be used for production, but the battery will be reconfigured into a 1.6-pound version. The technology provides for an extremely safe and stable battery that can be punctured yet continue

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to work without risk to the soldier. Additionally, the battery can be discarded as normal waste instead of the usual requirements for the disposal of hazardous waste. Power management in the electronics and software combined with lower power consuming hardware will reduce the total power consumption and enable the lighter weight battery configuration.

The Project Manager, Soldier (PM, Soldier) and the TRADOC System Manager-Soldier (TSM-Soldier) are working together to prepare Land Warrior for the JCF AWE. In providing the Land Warrior hardware and software, PM, Soldier has taken a streamlined acquisition approach involving rapid prototype development and a teaming effort with industry. Teaming provides daily interaction between government and industry where expertise from both is responsible for various aspects of the program in parallel. The result is rapid progress in providing solutions and incorporating user and technical improvements.

TSM-Soldier is the interface to the JRTC and Fort Bragg user community and is working on the training and operational aspects of preparing the Land Warrior for the AWE.

Summary

In summary, many of the Land Warrior capabilities will be included in the JCF AWE Version 0.6 to enable the infantry to experiment with determining the best TTPs and provide recommended improvements in Land Warrior prior to production.

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